

Notice of Allowability

Application No.

09/887,475

Examiner

Yubin Hung

Applicant(s)

NAVON, YAAKOV

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7 October 2004.
2. ☒ The allowed claim(s) is/are 1-42.
3. ☒ The drawings filed on 25 June 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Response to Amendment/Arguments

1. This action is in response to amendment filed on October 7, 2004.
2. In view of applicant's amendment, the objection to the information disclosure statement has been withdrawn.
3. Applicant's arguments, see P. 14, Line 13 – P. 15, line 3, with respect to amended claim 1 (and similarly claims 12, 15, 26 and 29) have been fully considered and are persuasive. The rejections of claims 1, 12, 15, 26 29 and their respective dependent claims have been withdrawn.

Allowable Subject Matter

4. Claims 1-42 are allowed.
5. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, and similarly claims 12, 15, 26 and 29, prior art of record fails to teach or suggest, alone or in combination, a symbol locating method that fits line segments from edge points of a smeared image, groups a predetermined number of

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nearly parallel lines together and then uses the grouping to identify a region of interest (e.g., rows of symbols) from the image.

Closest art of record Wong et al. ("Document Analysis System," IBM J. Research & Development, Vol. 26, No. 6, Nov. 1982, pp.647-656) discloses a method that smears an image both horizontally and vertically, applies a logical AND to the smeared images, and then locates regions consisting of text lines. However, it does not teach nor suggest line-fitting edge points of the smeared images in order to identify the text region by a region defined by a cluster of lines. On the other hand, the well-known Hough transform technique is frequently used to fit straight lines from edge points with the degree of collimation and the distances between parallel lines (in a line group thus identified) that can be determined depending on the resolution of the Hough transform cells, which is a design parameter, or whether and how the cells are further merged. For example, see Figs. 5, 41 and 42 of Nakayama (US 5,790,403). However, there is no teaching nor suggestion to smear an image before applying the Hough transform to edge points to identify line groups is found. Additionally, Srihari ("Document Image Understanding," Proc. 1986 ACM Fall Joint Computer Conference, pp. 87-96) discusses three top-down approaches for block segmentation, including smearing and Hough transform. Again, no suggestion was made to combine smearing with Hough transform.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

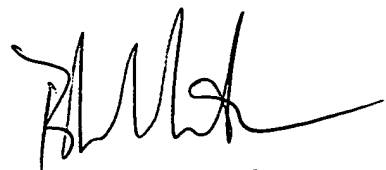
Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yubin Hung whose telephone number is (703) 305-1896. The examiner can normally be reached on 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Yubin Hung
Patent Examiner
February 22, 2005


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